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Type, *Suksdorf 5725* in Herb. Gray, dry, bare places in meadows, Mt. Paddo (Adams), Yakima County, Washington.

Unusually well marked as a variety by the extreme development of stipitate glands on the bracts, sepals, and petals. The variation is perhaps induced by habitat, for the typical form of the species (except for the fact that it has white petals) occurs at the same altitude on the mountain, growing intermingled with the variety to some extent, but more abundantly "in damp or wet sandy places." It may be that all of the Mt. Paddo material constitutes a species, of which the plant above described is a variety, differing from *Lewisia nevadensis* in its denticulate calyx segments and from *L. pygmaea* in its white corolla. Until a more significant difference from *L. pygmaea* comes to light, such a treatment is hardly to be justified, for in at least one species of the genus, *L. rediviva*, the color of the corolla is known to vary from deep rose to pure white.—H. H. BARTLETT, *Gray Herbarium*.

SOME PERPLEXITIES OF THE INDEXER

During the last few years the work on the *Card index of new species, varieties, and forms of American plants* has necessitated the examination of a large number of taxonomic papers of both American and foreign authorship. Some of the perplexing questions which have arisen I wish to bring before the botanical systematist. It may be urged, as one correspondent has already suggested, that "the scientist writes for the student and not for the indexer." This is true, but is it the whole truth? In these days of multiplicity of publications it is well-nigh impossible for each student of systematic botany to review carefully all the literature which may possibly bear upon his subject or contain a new name in the group upon which he is working. Not long ago a publication relating to a state flora and containing more than 600 pages was carefully examined, with the result that six new combinations were found; but there was no indication whatever that these were new. Can each student spare time for this? With the aid of such works as the *Index Kewensis*, the *Index to North American fungi*, the *Card index*, etc., the student readily turns to the original descriptions of the plants in the group which interests him, and from articles containing these descriptions he finds references to the important works relating to his specialty. He is also able to ascertain whether a name or combination which he proposes to launch as new has been used previously. The relation of the index to the systematist is that of a catalogue to the worker in a library. Now the scientist is not the person who will take his time for index work, and even if he did he would be limited to the few groups

with which he is familiar, or should he undertake a larger field he would become, outside his specialty, only an indexer.

Indefiniteness and inaccuracy in publishing new names are the cause of much trouble to the indexer as well as the student, and result in many errors. One instance of this occurs where there is no indication to show that certain names in a given paper are new and many others cited in the same way have been published earlier. Even the student, in such cases, would be unable to discern the new from the old without the aid of indexes. Another perhaps just as misleading method of citation is to leave the "n. sp.," "in litt.," "in herb." or "MSS" attached to a name which has been already published. If the name appeared in the first edition of a work it is not a "n. sp." in the second edition; hence the inaccuracy. In 1894 Caloneis, a new genus of diatoms, was made. Under this new genus are 74 species, many of which are transferred from *Navicula*. Now, how are these species under a new genus given? One example, perhaps, will be sufficient: "*C. obtusa* W. Sm. (1853)." By reading the synonymy we learn that in 1853 W. Smith (who died in 1857) made the species *Navicula obtusa*, but he never heard of *Caloneis obtusa*, for the genus was not named until 1894, 37 years after his death. Is not then the citation "*C. obtusa* W. Sm. (1853)." misleading and therefore unscientific? Another form which gives rise to ambiguity is the unsupplemented use of the parenthetical authority. In many instances the author will cite the parenthetical author alone, leaving the author of the combination an unknown quantity. It may be a new combination, and if so the question arises whether a name can be considered published which is connected with no description and no synonym, but merely an authority given in parenthesis indicating that somewhere and some time during the last 150 years the author cited in parenthesis has used the specific name for this plant under another genus either for a species or variety. Too many examples might be given for this. In omitting the authorship of a combination some writers claim that the only one who should have the credit is the one who originally described the plant. The truly scientific worker does not think of credit, but he may well consider that the author of a correct combination is as important for reference to the future student as the author of the original name. Can it be that some authors omit their own names from new combinations because of modesty? In such a case why should the name be signed to the article in which they are published? When the authority of a combination is omitted there is no clue given to the place of the transfer, and one may search in vain without the aid of an index to find the date of the transfer or notes made in connection with it. Not infrequently the indexer must

spend hours searching, at best with doubtful result, for an earlier reference to, or a correct synonym for, a combination used with parenthetical authority only. If it is so important to give the authority for the original description of a plant, is it not just as important to give the name under which it was described, and the name of the one who has placed it in the correct genus?

In 1753 Linnaeus established the binomial system of nomenclature and this was followed until very recently. Now, however, a few of our botanists have reverted to the use of the trinomial, and not only for their own new names, but in citing authors of the past. Thus Dr. Torrey, Dr. Gray, and many others who never used this form are credited with it. Recently one of our younger botanists published the name *Spilanthes americana*, var. *parvula*, forma *parviflora*. Would it be a correct citation of this name to make it *Spilanthes americana parvula parviflora*, or fair to the author to attach his name to a combination so pre-Linnaean? One great objection to the trinomial is the indefiniteness of the third part; some use it as a subspecies, some as a variety, some as a form, some as a mutation, etc., and the reader or student is often left without any clue to what category it belongs. In a paper recently issued the preface states that the rank next below the species is a subspecies, thus making the third name of the trinomials used in this paper rank as subspecies. The author proceeds to make the third name of all his new trinomials subspecies and then cites all varietal names made by earlier writers as the third name of a trinomial. Does he thereby transfer varieties to subspecies and make new combinations which the student of the future and the indexer must consider? Certainly the names were not used in this form originally.

Just the opposite of the last point is the use of the binomial in the index to a periodical when the name on the page to which it is referred is not in accord: for example, *Prunella vulgaris scaberrima* occurring in an article is cited in the index to the volume as *Prunella scaberrima*. Is the latter, then, a new combination? If so, who is authority for it, for the name of the one who indexed the volume is never given?

The errors and inaccuracies of the past must remain. But the present and future systematic botanists can easily avoid them in their forthcoming works by (1) indicating clearly each new species, combination, or name; (2) not allowing a name to appear as new when it has been published previously; (3) always giving the correct authority, or, where the parenthesis is used, the correct double authority; (4) stating clearly the category to which each name, below the specific, belongs; and (5) in no way distorting or altering the rank of names attributed to other authors.—MARY A. DAX, *Gray Herbarium*.